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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,092	09/18/2003	Chandramouli Visweswariah	YOR920030401US1	6186

7590

01/26/2006

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EXAMINER
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GARBOWSKI, LEIGH M

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/665,092

Applicant(s)

VISWESWARIAH,  
CHANDRAMOULI

Examiner

Leigh Marie Garbowski

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-35 is/are rejected.
- 7) ☒ Claim(s) 17,30 and 32-35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/18/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

Applicant's election of Group II, Claims 17-35, in the reply filed on 11/18/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Objections***

Claims 17, 30, and 32-35 are objected to because of the following informalities: as per claims 17 and 33-35, taking claim 17 as exemplary, the antecedent basis for "the one or more statistical timing queries" [lines 5-6] is confusing, it is not clear if the feature is intended to be interpreted as "creating ..." or "based on ..."; there is no antecedent basis for "the arrival times" [line 8]; it is not clear which "tightness probabilities" [line 9] are being referred to; there is no antecedent basis for "required arrival times" [lines 10-11]. As per claim 30, there is no antecedent basis for "the delay of each component" [line 1]. As per claim 32, there is no antecedent basis for "sources of variation" [line 3]. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 17 and 33-35, taking claim 17 as exemplary, "assigning levelization parameters" [lines 6-7] is vague and indefinite, it is not clear what the parameters are assigned to; "answering the one or more statistical timing queries" [line 12] is vague and indefinite, it is not clear where a query is asked.

The remaining claims, though not specifically mentioned, are rejected for incorporating the errors of their respective base claim by dependency.

The following rejections are based on the examiner's best interpretation of the claims in view of the objections and rejections raised above.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Abato et al. [U.S. Patent #5,508,937].

As per claims 17 and 33-35 [column 7, lines 58-61], taking claims 17 as exemplary, a method for incremental statistical timing analysis, comprising the steps of: a. conducting an initial statistical timing analysis and saving one or more arrival tightness probabilities and one or more required arrival tightness probabilities [column 1, lines 58-63; column 7, line 66-column 8, line 25; column 9, lines 35-40]; b. creating a change list based on the changed to the electrical circuit and the one or more statistical timing queries, and assigning levelization parameters [column 7, lines 6-7; column 8, lines 26-34; column 10, lines 25-27; column 18, line 2column 22, lines 20-27, 32-35]; c. conducting incremental statistical forward propagation of probabilities [column 1, lines 58-63; column 15, line 56; column 21, lines 55-61]; d. conducting incremental statistical reverse propagation of probabilities [column 1, lines 58-63; column 15, lines 58; column 21, lines 55-67]; and e. answering the one or more statistical timing queries [column 6, line 66-column 7, line 4]. As per claims 18-24, see the entire document for optional characteristics of queries. As per claims 25-26, see column 8, line 48-column 9, line 10. As per claims 27-29, see the entire document for optional characteristics of electrical circuits. As per claims 30-32, see column 1, lines 58-65 for well-known characteristics of statistical timing analysis computations [see also Devgan et al. [U.S. Patent Application #2004/0243954 A1].

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### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Srinivasan et al. [U.S. Patent #6,851,095 B1] disclose incremental recharacterization that accommodates design changes. Pedersen et al. [U.S. Patent #6,490,717 B1] disclose incremental recompilation. Lee [U.S. Patent #6,367,056 B1] discloses incremental timing analysis. Cleereman et al. [U.S. Patent #6,026,220] incremental optimization that maintains lists.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 571-272-1893 and e-mail is Leigh.Garbowski@uspto.gov. The examiner can normally be reached on days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**LEIGH M. GARBOWSKI**  
**PRIMARY EXAMINER**